UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,462	01/25/2001	Noriyasu Suzuki	2018-380	3949

7590 07/01/2005	**EXAMINER**
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ART UNIT	PAPER NUMBER
3639	

1100 North Glebe Rd, 8th Floor
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DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Status

1)☒ Responsive to communication(s) filed on _23 March 2005_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-22_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

DETAILED ACTION

Response to Arguments

1)   Applicant's amendments filed on March 23, 2005, including the presentation of

new Claims 18-22, have been entered.

2)   Applicant's arguments with respect to claims 1, 7, 13 and 16-17 have been

considered but are moot in view of the new ground(s) of rejection. The new ground(s)

of rejection have been necessitated by the newly added limitation, "the cost factor data

of the product being displayed in a modifiable manner".

Priority

3)   Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d) (JP 2000-72904, filed on March 15, 2000).

Claim Rejections - 35 USC § 103

4)   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5)   Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP

09-62729 (hereinafter JP '729).

As for Claim 1, JP discloses a method comprising steps of:

retrieving and displaying cost factor data of the product, which include cost

factors and values of the cost factors, the cost factor data of the product including at

least one of estimating a cost of a product, comprising geometrical data and attribute

data of the product both contained in design data of the product produced by a CAD

system, the geometrical data including at least one of dimensions, surface area and

volume of the product, and the attribute data including at least product material name

(see the entirety of the English Abstract and Figs. 1-24, especially Figs. 17, 23 for the

cost factor);

acquiring at least one of the values of the cost factors by an automatic data

acquisition feature of the CAD system through operation of the CAD system conducted

by an operator (see Id.);

computing and displaying cost of the product based on the cost factor data (see

Supra Abstract and Figs.).

However, JP '729 does not expressly disclose the method including the cost

factor data of the product being displayed in a modifiable manner.

JP' 729 discloses that the operator can modify parameters of the corresponding

feature of the CAD data through the input device (110) and a cost factor generation

means generates the factor about cost required in order to generate the component.

It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the method of JP '729 such that the operator

would modify the cost factor with respect to the component as well as any parameters

of CAD data because JP '729 discloses an input interface to enable the operator to

modify any data regarding the operation, for the purpose estimating a highly precise

cost from the CAD data of the components in which the operator would further input the

various cost factors.

As for Claim 2, the modified JP further discloses the method wherein the acquiring step

includes an input operation on a displayed three-dimensional CAD screen so that the at

least one of the values of the cost factors is computed automatically and set in a

corresponding displayed cost factor value input field (see the entirety of the English

Abstract and Figs. 1-24, especially Figs. 17, 23).

As for Claim 3, the modified JP further discloses the method, wherein the dimensions in

the cost factors include width, length and height of the product; and the acquiring step

automatically computes, when x, y and z axes of the product displayed on a three-

dimensional CAD screen are changed, a value of the width, a value of the length and a

value of the height of the product based on the changes and are renewed (see Figs. 3D

components in Supra Figs.).

As for Claim 4, the modified JP further discloses the method, wherein the dimensions in

the cost factors further include wall thickness of the product; and the acquiring step

selects a couple of points on the product being displayed by a pointing device to set a

value of the wall thickness of the product, and automatically computes the value of the

wall thickness between the points and automatically sets the same in a displayed wall

thickness value input field (see Fig. 7 and the English Abstract).

As for Claim 5, the modified JP further discloses the method, wherein each

manufacturing step of the product is predicted based on the cost factor data of the

manufacturing step specified by the operator, a manufacturing step database and

manufacturing step prediction rules; and the cost is computed based on the each

predicted manufacturing step (see the entirety of the English Abstract and Figs. 1-24,

especially Figs. 17, 23).

As for Claim 6, the modified JP further discloses the method, wherein the cost factor

data are retrievably stored in a storage device (see Id.).

As for Claim 18, the modified JP further discloses the method, wherein the cost factor

data of the product includes a type of manufacturing step of the product (see Fig. 7 and

the input device 131 in Fig. 1)

As for Claim 7, JP discloses a cost estimation apparatus for estimating a cost of

a product comprising:

storage device for storing geometrical data and attribute data of the product

produced by a CAD system, the geometrical data including at least one of dimensions,

surface area and volume of the product, and the attribute data including at least product

material name (see the entirety of the English Abstract and Figs. 1-24, especially Figs.

17, 23);

a first acquisition device for automatically values of cost factors of the product

from and the attribute data stored in the storage device (see Id.);

a second acquisition device for acquiring at least one of the values of the cost

factors by an automatic data acquisition acquiring the geometrical data feature of the

CAD system through operation of conducted by an operator (see Id.);

a cost computing device for computing the cost of the product based on cost

factor data including the cost factors and the values of the cost factors acquired by the

first and second acquisition devices; and

a display device for displaying the cost computed by the cost computing device

(see Supra Abstract and Figs.).

However, JP '729 does not expressly disclose the apparatus including the cost

factor data of the product being displayed in a modifiable manner.

JP' 729 discloses that the operator can modify parameters of the corresponding

feature of the CAD data through the input device (110) and a cost factor generation

means generates the factor about cost required in order to generate the component.

It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the apparatus of JP '729 such that the operator

would modify the cost factor with respect to the component as well as any parameters

of CAD data because JP '729 discloses an input interface to enable the operator to

modify any data regarding the operation, for the purpose estimating a highly precise

cost from the CAD data of the components in which the operator would further input the

various cost factors.

As for Claim 8, the modified JP further discloses the cost estimation apparatus, wherein

the second acquisition device automatically computes and sets the at least one of the

values of the cost factors in a corresponding displayed cost factor value input field,

when an input operation on a displayed three-dimensional CAD screen is carried out

(see the entirety of the English Abstract and Figs. 1-24, especially Figs. 17, 23).

As for Claim 9, the modified JP further discloses the apparatus, wherein the dimensions

include width, length and height of the product; and the second acquisition device

automatically computes and renews a value of the width, a value of the length and a

value of the height of the product based on changes, when x, and z axes of the product

displayed on a three-dimensional CAD screen are changed by the operation of the CAD

system by the operator (see Supra Claim 3).

As for Claim 10, the modified JP further discloses the apparatus, wherein the

dimensions further include wall thickness of the product; and the second acquisition

device automatically computes a value the wall thickness between couple of points and

automatically sets the computed value of the wall thickness in a displayed wall

thickness value input field, when the couple of points on the product being displayed are

selected by a pointing device to set the value of the wall thickness of the product (see

the entirety of the English Abstract and Figs. 1-24, especially Figs. 17, 23).

As for Claim 11, the modified JP further discloses the apparatus including:

a cost factor specifying device for specifying the cost factor data of each manufacturing step based on an instruction of the operator; and

a manufacturing step prediction device for predicting each manufacturing step of the product based on the cost factor data of the manufacturing step specified by the cost factor specifying device, a manufacturing step database and manufacturing step prediction rules,

wherein the cost computing device computes the cost based on the each manufacturing step predicted step prediction device (see the entirety of the English Abstract and Figs. 1-24, especially Figs. 17, 23).

As for Claim 12, the modified JP further discloses the apparatus including: a storage device for retrievably storing the cost factor data (see Id.).

As for Claim 19, the modified JP further discloses the apparatus, wherein the cost factor data of the product includes a type of manufacturing step of the product (see Fig. 7 and the input device 131 in Fig. 1).

As for Claim 13, JP discloses a cost estimation apparatus for estimating a cost of a product comprising a cost estimation application implemented in a CAD system for computing the cost based on design data of the product produced by the CAD system (see Supra Abstract and Figs. 1-24, especially Figs. 17, 23).

However, JP '729 does not expressly disclose the apparatus including the cost factor data of the product being displayed in a modifiable manner.

JP' 729 discloses that the operator can modify parameters of the corresponding feature of the CAD data through the input device (110) and a cost factor generation means generates the factor about cost required in order to generate the component.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the apparatus of JP '729 such that the operator would modify the cost factor with respect to the component as well as any parameters of CAD data because JP '729 discloses an input interface to enable the operator to modify any data regarding the operation, for the purpose estimating a highly precise cost from the CAD data of the components in which the operator would further input the various cost factors.

As for Claim 14, the modified JP further discloses the apparatus, wherein the cost is estimated for the product that is currently displayed on the CAD system (see Id.).
As for Claim 15, the modified JP further discloses the apparatus as in claim including a server, which has a manufacturing step prediction feature for predicting each manufacturing step of the product and a cost computation feature for computing the cost of the product (see Id.).

As for Claim 20, the modified JP further discloses the apparatus, wherein the cost factor

data of the product includes a type of manufacturing step of the product (see Fig. 7 and

the input device 131 in Fig. 1).

As for Claim 16, JP discloses a cost estimation apparatus product comprising:

a CAD machine for designing the product, the CAD machine including a display

device for displaying a design of the product and also design data of the product, an

input device for inputting the design data and a central processing unit for processing

the design data (see the entirety of the English Abstract and Figs. 1-24, especially Figs.

17, 23);

a design data server interconnected with the CAD machine and including a

storage device for storing the design data and other data transmitted from the CAD

machine, wherein the CAD machine is capable of retrieving the design data and other

data from the storage device of the design data server (see Fig. 1);

a cost estimation server for estimating a cost of the product, wherein the cost

estimation server is interconnected with the CAD machine and includes a central

processing unit for computing the cost of the product based on cost factor data of

the product upon receiving an instruction from an operator of the CAD machine through

the input device and also includes a storage device for storing the cost factor data and

the computed cost of the product (see Fig. 1 for the cost factor generator),

wherein at least part of the cost of actor data of the product is automatically

acquired based on the design data by the central processing unit of the cost estimation

server (see 140 in Fig. 1),

wherein the cost factor data of the product are concurrently renewed when

corresponding input operation is performed on the displayed design of the product by

the operator, and

wherein the computed cost of the product transmitted from the cost estimation

server to the CAD machine and is displayed on the display device of the CAD machine

(see Fig. 7).

However, JP '729 does not expressly disclose the apparatus including the cost

factor data of the product being displayed in a modifiable manner.

JP' 729 discloses that the operator can modify parameters of the corresponding

feature of the CAD data through the input device (110) and a cost factor generation

means generates the factor about cost required in order to generate the component.

It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the apparatus of JP '729 such that the operator

would modify the cost factor with respect to the component as well as any parameters

of CAD data because JP '729 discloses an input interface to enable the operator to

modify any data regarding the operation, for the purpose estimating a highly precise

cost from the CAD data of the components in which the operator would further input the

various cost factors.

As for Claim 21, the modified JP further discloses the apparatus, wherein the cost factor

data of the product includes a type of manufacturing step of the product (see Fig. 7 and

the input device 131 in Fig. 1).

As for Claim 17, JP discloses a cost estimation apparatus for estimating a cost of

a product comprising:

a CAD machine for designing the product, the CAD machine including a display

device for displaying a design of the product and also design data of the product, an

input device for inputting the design data, a central processing unit for processing the

design data and a storage device for storing the design data (see the entirety of the

English Abstract and Figs. 1-24, especially Figs. 17, 23); and

a cost estimation server for estimating a cost of the product, wherein the cost

estimation server is interconnected with the CAD machine and includes a central

processing unit for computing the cost of the product based on cost factor data of

the product upon receiving an instruction from an operator of the CAD machine through

the input device and also includes a storage device for storing the cost factor data and

the computed cost of the product (see Id.),

wherein at least part of the cost f actor data of the product is automatically

acquired based on the design data by the central processing unit of the cost estimation

server,

wherein the cost factor data of the product are concurrently renewed when

corresponding input operation is performed on the displayed design of the product by

the operator, and

wherein the computed cost of the product is transmitted from the cost estimation

server to the CAD machine and displayed on the display device of the CAD machine

(see Supra Abstract and Figs.).

However, JP '729 does not expressly disclose the apparatus including the cost

factor data of the product being displayed in a modifiable manner.

JP' 729 discloses that the operator can modify parameters of the corresponding

feature of the CAD data through the input device (110) and a cost factor generation

means generates the factor about cost required in order to generate the component.

It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the apparatus of JP '729 such that the operator

would modify the cost factor with respect to the component as well as any parameters

of CAD data because JP '729 discloses an input interface to enable the operator to

modify any data regarding the operation, for the purpose estimating a highly precise

cost from the CAD data of the components in which the operator would further input the various cost factors.

As for Claim 22, the modified JP further discloses the apparatus, wherein the cost factor data of the product includes a type of manufacturing step of the product (see Fig. 7 and the input device 131 in Fig. 1).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Woo whose telephone number is 571-272-
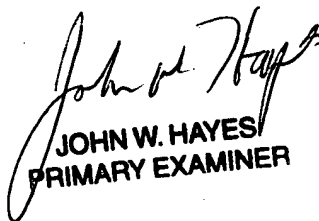
6813. The examiner can normally be reached on Monday-Friday from 8:30 AM -5:00

PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Richard Woo
Patent Examiner
Art Unit 3639
June 20, 2005

JOHN W. HAYES
PRIMARY EXAMINER